SUPREME COURT OF THE UNITED STATES.

Nos. 767 and 768.—October Term, 1935.

Duplate Corporation and Pittsburgh Plate Glass Company, Petitioners, *vs.* Triplex Safety Glass Company of North America, Respondent.	On writs of certiorari to the United States Circuit Court of Appeals for the Third Circuit.

[May 18, 1936.]

Mr. Justice Cardozo delivered the opinion of the court.

The subject of this controversy is the measure of petitioners' liability for damages and profits under a decree for an accounting by infringers of a patent.

Respondent, complainant below, is the owner of a patent, number 1,182,739, for the making of laminated glass, which will crack, but not shatter. The product is better known as "safety" or "shatter-proof" glass, and is used very largely in the making of automobiles. In the process of manufacture, a sheet of pyralin or celluloid is sandwiched between two thin sheets of plate glass, each ⅛ of an inch thick, the pyralin being cemented to the opposite glass sheets by a film of gelatin. The heat and pressure necessary to induce adhesion are applied to the "sandwiches" in a receptacle known as an autoclave, a steel boiler of large size. At the end of the process, the glass and the pyralin are firmly joined together with the appearance of a single sheet. For users of motor cars the risk of injury from flying glass is greatly reduced, if not removed altogether.

Complainant had a decree against the Duplate Corporation, one of the petitioners here, for an infringement of this patent. 42 F. (2d) 737; 42 F. (2d) 739. Later a supplemental decree was entered against the other petitioner, Pittsburgh Plate Glass Company, the owner of fifty per cent of the stock of Duplate. Pittsburgh was a contributory infringer, supplying Duplate, its subsidiary, with the glass, which was then wrought into the finished product. An accounting followed before a master. The defendants satisfied the master that they were not conscious or deliberate infringers. The finding by the master in that regard was approved by the District Court and later by the Court of Appeals. It will be accepted as a datum here. The account is to be stated on the assumption that the defendants, though infringers, have acted in good faith. Cf. R. S. § 4919, 4921; 35 U. S. C. §§ 67, 70; *Larson Co.* v. *Wrigley Co.*, 277 U. S. 97.

The controversy as to the measure of liability divides itself into two branches, one concerned with the defendants' profits, the other with the complainant's damages. In reckoning the profits, the master made allowance to the defendants for the cost of labor and material wasted without fault in the manufacturing process. This amounted to $1,192,264.32 ($435,207.52 for loss of glass; $219,036.93 for loss of pyralin; $538,019.87 for loss of labor and material other than glass or pyralin.) The master made allowance also for the cost of labor and material that entered into merchandise returned by the defendants' customers for defects afterwards discovered. This amounted to $504,137.45. He refused to make allowance for more than the manufacturing cost of the material bought by one defendant from the other, but did allow the saving effected by the use of patented devices. He found himself unable to ascertain the specific costs of operation to be attributed to sales that had been made at known prices, and refused in stating the account to compare specific prices with average costs of operation, and fix the liability accordingly. Instead, he treated the business as one continuous infringement, a unitary transaction, comparing average costs with average prices. Through this method of computation he arrived at the conclusion that during the period covered by the accounting the defendants had operated at a net loss of $276,857.47 in the sale of the infringing product. That being so there was nothing owing on the score of profits.

"In patent nomenclature what the infringer makes is 'profits'; what the owner of the patent loses by such infringement is 'damages' ". *Diamond Stone-Sawing Machine Co.* v. *Brown*, 166 Fed. 306. The master found the evidence insufficient to show the extent of the sales that the complainant could have made if the defendants had not infringed, or what the sales would have netted even if they had been made. He did find, however, that the effect of the infringement had been to drive the complainant out of business, and that a few sales which had been made were at greatly reduced prices, with a loss of $2,807.89 as a result of the enforced reduction. The diverted sales, if any, and their value being not susceptible of proof, the master held that general damages should be awarded on the basis of a reasonable royalty to be paid by the defendants upon their sales of the infringing product, whether gainful or the opposite. Cf. *McKee Glass Co.* v. *H. C. Fry Glass Co.*, 248 Fed. 125, 129. This royalty was ascertained to be $414,120.70. Nothing was said by the master as to an award of interest.

The District Court modified the report by striking out the item

of damages by reason of price reductions ($2,807.89) and confirmed it as thus modified, adding, however, interest on $414,120.70, the award of general damages, from the date of the last infringement (May 31, 1930). 10 F. Supp. 420. There were cross-appeals to the Circuit Court of Appeals for the Third Circuit. On the appeal by the defendants, the decree was affirmed. On the appeal by the complainant there were far-reaching modifications. All allowances for factory losses and for customers returns were rejected. These amounted altogether to $1,696,401.77. There was also a rejection of the savings effected by the use of patents. They had been fixed by the master at $1,108,692.73. The method of stating the account was recast by directing a comparison between average costs and specific prices instead of average costs and average prices. The cause was remanded with instructions to restate the account in conformity with the principles laid down in the opinion. 81 F (2d) 352. To settle important questions as to the liability of infringers, writs of certiorari were granted by this court.

1. *Factory losses incurred as a necessary or normal incident to the completion of sales effected at a gain.*

A sale resulting in a loss may not be offset by an infringer against another and independent sale resulting in a gain for the purpose of extinguishing or reducing a liability for profits. *Crosby Valve Co.* v. *Safety Valve Co.*, 141 U. S. 441, 457. On the other hand, the extent of the gain resulting from a sale is not susceptible of ascertainment without the deduction and allowance of the incidental costs. *MacBeth Evans Glass Co.* v. *L. E. Smith Glass Co.*, 21 F. (2d) 553, 555; *Canda Bros.* v. *Michigan Malleable Iron Co.*, 152 Fed. 178, 180; *Levin Bros.* v. *Davis Mfg. Co.*, 72 F. (2d) 163, 165, 166; *Stromberg Motor Devices Co.* v. *Detroit Trust Co.*, 44 F. (2d) 958, 963, 964. To make the product of a factory ready for the market labor and material must be consumed by the seller-manufacturer. The cost of such consumption does not cease to be a charge against the proceeds because viewed in isolation it may be classified as waste. If the waste is unavoidable or even fairly to be expected in the normal course of such a business there is a diminution of the profit for an infringer as for others. Cf. *Rubber Co.* v. *Goodyear*, 9 Wall. 788, 804. "Losses occurring concurrently with the gaining of profits should be taken into account, if they resulted from the particular transaction on which profits are allowed." *MacBeth Evans Glass Co.* v. *L. E. Smith Glass Co., supra; Canda Bros.* v. *Michigan Malleable Iron Co., supra.* They are the charges that must be known before profits can be estimated.

Adherence to that principle sustains the ruling of the master that in measuring the gain from particular transactions the defendants should have allowance for the expense of incidental wastage, unless the wastage is so great as to overpass the bounds of reason. Cf. *Continuous Glass Press Co.* v. *Schmertz Wire Glass Co.*, 219 Fed. 199, 203. No such excess may be imputed to the manufacturing defendant, as is evident from the testimony and the findings of the master. The causes of waste are many. Inevitably a certain amount of glass is lost in the cutting. Grit and dust clinging to the pyralin even in minute particles produce defects destructive of the product as a merchantable commodity. A like result will follow from the intrusion of a hair. To make the situation worse, a sheet of pyralin is charged with static electricity which acts as an attractive force to bring loose particles together. There is also chipping of the glass as well as other damage in the course of transportation from one department to another. Even more destructive is the damage to the sheets under pressure in the autoclave, the crimping of the edges opening a channel into which water tends to seep. Most of this wastage is unavoidable, though extraordinary precautions have been taken to overcome it. To some extent, however, the loss has been diminished by improved methods of manufacture, unknown to the business in its infancy, but progressively developed as the outcome of experience. Thus, to purify the atmosphere and dispel dust or other particles a separate room has been built, supplied with filtered air. Experiments carefully made have been followed by improvements that reduce the risk of damage when the sheets are under pressure. At all times the business has been conducted with a high degree of care. Even when glass has been chipped or broken in being moved from place to place, there is no evidence that appropriate precautions were omitted to make the loss as small as possible. Some percentage of breakage is a normal, indeed a necessary incident to the handling by human instruments of so fragile a commodity. The situation is tersely summarized in the findings of the master. "The Master is satisfied from the evidence that a considerable amount of the finished product had to be turned out only to be rejected or returned in order that a certain volume of perfect specimens might be sold. It was also established by the evidence that even the Ford Motor Company, in making laminated glass under its agreement with the plaintiff, was required to produce five million windshields in order to obtain four million good ones,—and it appears as self-evident to the Master that in the case of Ford, as in the case at bar,

the cost of producing the good ones necessarily included the cost of producing the million bad ones, but for which the good ones could not have been produced."

In the light of these findings and others to the same effect, the distinction becomes evident between the situation in this case and that in the case of the Crosby valves. 141 U. S. 441, 454, 457. Metal valves had been manufactured as the result of a process of experiment (*Ibid.*, p. 454), and had been destroyed when returned or when found to be defective. "The defendants were not charged on valves which were subsequently destroyed, or, if so, they were not charged upon the new valves which replaced them," *Ibid.*, p. 457. They asked, however, for something more. They contended that the valves so destroyed "ought to form a credit against the profits actually realized . . . on other valves." This contention was rejected. The valves discarded or returned were experimental only, as the opinion of the court informs us. *Ibid.*, p. 454. Cf. *Union Electric Welding Co.* v. *Curry*, 279 Fed. 465, 467; *Page Machine Co.* v. *Dow, Jones & Co.*, 238 Fed. 369, 374. The record does not indicate that the defects were necessary or normal incidents to producing the infringing article. Credit will be allowed for the cost of abortive effort when cost has been incurred as an unavoidable or reasonable preliminary to the particular transaction on which profits are recovered. *MacBeth Evans Glass Co.* v. *L. E. Smith Co., supra.* Credit will be refused when this nexus is not established. We have no thought to impugn the correctness of the decision in the case of the defective valves either as applied to its own facts or in cognate situations. We are unwilling to extend it to the costs in controversy here.

The ruling of the master as to the items here considered is accordingly approved.

2. *The allowance of the cost of glass sold by Duplate to its customers, and returned by the customers for defects afterwards discovered.*

These sales were mere futilities. They did not yield a profit for which the sellers have been charged. They were not preliminary to other sales refilling the same orders. At least there is nothing in the record to imprint that quality upon them. They have no place in the account at all. By the ruling of the master the cost of these futilities was allowed to the infringers. This we think was error. The infringers being relieved of any charge by reason of such transactions are not entitled to a credit. The case of the *Crosby Valve Company* (141 U. S. 441, 457) gives the applicable rule.

The very equities that exact the allowance of a credit where costs are but a means to realizing a profit, exact a different conclusion where profit is impossible.

3. *The measure of the allowance for glass fabricated by one infringer and furnished to the other.*

Duplate bought its glass in sheets ⅛ of an inch thick from its contributory infringer, Pittsburgh. In the computation of the profits allowance has been made for the material so furnished on the basis of manufacturing cost. The defendants now insist that the basis should be market value. The acceptance of such a measure would enable the infringers to profit by their wrong. There was no use in the automobile industry for glass so thin as this except in connection with the process described in the complainant's patent. Cf. *Duplate Corporation* v. *Triplex Safety Glass Co.*, 42 F. (2d) 739, 741. If there had been no infringing business, the large amount of glass that went into the infringing product would never have been sold at all. True, glass of that thickness was used in other industries, in train windows and toilet mirrors. The master finds, however, that Pittsburgh had been able, while supplying glass to Duplate, to respond to all demands that came from other users, the railroads and the glaziers. If as part of this accounting it is given credit for the glass at a price above the cost, it will thereby have enlarged its market to an equivalent extent and reaped a profit as infringer. Equity forbids that this result should be attained. We are referred by the defendants to *Barber Asphalt Paving Co.* v. *Standard Asphalt & Rubber Co.*, 30 F. (2d) 281, 284, as well as other cases. They were well decided on their facts, or so we now assume. The facts do not suggest the inference that the effect of the infringement was to open up a market that would otherwise have been lost.

4. *The allowance of the saving effected by the use of patented devices.*

Pittsburgh was the owner of twenty-six patents which it used for its own benefit in the making of its glass. The claim is made that if the glass is not to be taken on the basis of market value, there must at least be an allowance of a reasonable royalty as compensation for the economies effected through the patented devices. But this is to misconceive utterly the position of an infringer accounting for illicit profits. "An infringer cannot be heard to say that his superior skill or intelligence enabled him to realize profits by his infringement which a person of less skill might not have realized." *Lawther* v. *Hamilton*, 64 Fed. 221, 224. Cf.

Westinghouse Electric and Mfg. Co. v. *Wagner Electric and Mfg. Co.*, 225 U. S. 604, 614; *Carborundum Co.* v. *Electric Smelting & Aluminum Co.*, 203 Fed. 976, 982; *Conroy* v. *Penn Electrical & Mfg. Co.*, 199 Fed. 427, 430; *Armstrong* v. *Belding Bros. & Co.*, 297 Fed. 728, 732. He will be heard with no more patience in an endeavor to diminish liability by ascribing his profits to the capacity indwelling in a patent. Whatever is at his call in the service of the enterprise — brawn and intelligence, factories and lands, patents and machinery—will be viewed upon an accounting as if held upon a quasi-trust to contribute what it can to the profits of the business. The wrongdoer must yield the gains begotten of his wrong.

5. *The method to be employed in stating an account.*

Sales of the infringing product were not made at a level price. At times the price was high; at others it was low. The owner of the patent in holding the infringers to an accounting is not confined to all or nothing. There may be an acceptance of transactions resulting in a gain with a rejection of transactions resulting in a loss. Upon a statement of an account, a patentee is not looked upon as a "quasi-partner of the infringers", under a duty to contribute to the cost of the infringing business as a whole. *McKee Glass Co.* v. *H. C. Fry Glass Co.*, 248 Fed. 125, 128. He is the victim of a tort, free at his own election to adopt what will help and discard what will harm. *Crosby Valve Co.* v. *Safety Valve Co., supra; Permutit Co.* v. *Refinite Co.*, 27 F. (2d) 695, 698; *Starr Piano Co.* v. *Auto Pneumatic Action Co.*, 12 F. (2d) 586, 589; *Canda Bros.* v. *Michigan Malleable Iron Co., supra; cf. Oliver* v. *Piatt*, 3 How. 333, 401; *Buffum* v. *Barceloux Co.*, 289 U. S. 227, 236; *King* v. *Talbot*, 40 N. Y. 76, 91.

The privilege of election is not contested by the defendants if costs as well as prices can be ascertained with precision. They take the ground, however, that if such precision is unattainable, the privilege must fail. But the master has found, and the parties are agreed, that in a business of this order there is no method of accounting, not impracticably burdensome, whereby the costs of operation can be apportioned and distributed except upon an average basis. At all events, if such a method was available, the defendants did not use it. They kept their books upon the basis of the method they decry, and measured loss or gain accordingly. Average cost, even if not identical with actual cost, is the best approximation known to accountants. Cf. *Norfolk & Western R. Co.* v. *State of North Carolina*, March 30, 1936, — U. S. —. The defendants will not be suffered to charge the complainant with the

losses of unprofitable transactions because the gains of the profitable ones cannot be reckoned to a nicety. The wrongdoer bears the burden in cases of confusion. *Westinghouse Electric and Mfg. Co.* v. *Wagner Electric and Mfg. Co., supra,* at pp. 618, 620.

6. *Damages, interest and an inspection of the books.*

The master advised an award of damages measured by a reasonable royalty on the amount of the defendants' sales. R. S. § 4921; 35 U. S. C. § 70. This was done on the assumption that the complainant had been unable to make proof of actual damages by reason of diverted sales, and that the defendants were not accountable for profits for the reason that the business had been conducted at a loss. Much of the discussion of this subject in the briefs and at the bar may be discovered to be moot when the account has been restated in accordance with the principles laid down in this opinion.

If, however, an award of damages upon the basis of a reasonable royalty becomes appropriate again, we think that interest should run from the date when the damages are liquidated, and not, as by the present decree, from the date of the last infringement. *Crosby Valve Co.* v. *Safety Valve Co., supra,* at pp. 457, 458; *Tilghman* v. *Proctor,* 125 U. S. 136, 160, 161; *Mowry* v. *Whitney,* 14 Wall. 620, 653. There are no exceptional circumstances justifying a departure from what is at least the general rule.

A word is needed in conclusion as to the asserted right of the defendants to examine the complainant's books. The defendants insist that with the aid of an inspection they can show that actual damages were suffered by reason of diverted sales, and damages so substantial as to forbid the award of a reasonable royalty, a substituted method of assessment to be used if other standards fail. It is not easy to see how the diversion of business, a negative condition, will be made apparent by the books. As we interpret the record, the defendants did not so contend when they asked for an inspection at the hearing before the master. Their position then was that "the damage to the plaintiff arising out of its alleged loss of sales was inconsiderable in amount." If, however, it shall appear upon the restatement of the account that in the belief of the defendants, reasonably entertained, an inspection of the books is still material and necessary, the propriety of such a remedy may be reconsidered by the master and the court in the light of the entire situation developed at that time.

The decree should be modified in accordance with this opinion, and as modified affirmed. *It is so ordered.*

Mr. Justice VAN DEVANTER took no part in the consideration or decision of the case.